

MAGNETIC ANNEALING SEQUENCES FOR PATTERNED MRAM SYNTHETIC ANTIFERROMAGNETIC PINNED LAYERS

Abstract of the Disclosure

A method is provided for fabricating a fixed layer for a MRAM device. The method includes providing the fixed layer. The fixed layer includes an antiferromagnetic pinning layer over a substrate and a ferromagnetic pinned layer over the pinning layer, the pinned layer having a first thickness. The fixed layer further includes a spacer layer over the pinned layer, and a ferromagnetic reference layer over the spacer layer, the reference layer having a second thickness. The method further includes annealing the fixed layer using a temporal temperature/magnetic field profile, the profile having a maximum magnetic field magnitude (H_{anneal}). The profile is selected based on the first thickness of the pinned layer and the second thickness of the reference layer.

H:\DOCS\BSI\BSI-4256.DOC
062403